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| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO.    |
|--|-------------|----------------------|---------------------|---------------------|
| 10/809,376   | 03/26/2004  | Olav Lysne           | 1380-0191PUS2       | 7638                |
| 2292   | 7590        | 06/10/2009           | EXAMINER            |                     |
| BIRCH STEWART KOLASCH & BIRCH<br>PO BOX 747<br>FALLS CHURCH, VA 22040-0747 |             |                      |                     | PATEL, CHANDRAHAS B |
| ART UNIT   |             | PAPER NUMBER         |                     |                     |
| 2416   |             |                      |                     |                     |
| NOTIFICATION DATE  |             |                      | DELIVERY MODE       |                     |
| 06/10/2009   |             |                      | ELECTRONIC          |                     |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

|                              |                        |                     |  |
|------------------------------|------------------------|---------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b> | <b>Applicant(s)</b> |  |
|                              | 10/809,376             | LYSNE ET AL.        |  |
|                              | <b>Examiner</b>        | <b>Art Unit</b>     |  |
|                              | Chandras Patel         | 2416                |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 01 June 2009.  
 2a) This action is FINAL.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-13 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1-13 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
     1. Certified copies of the priority documents have been received.  
     2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
     3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

|  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ .                                    |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____.   | 6) <input type="checkbox"/> Other: _____ .                        |

## DETAILED ACTION

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 6/1/2009 has been entered.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 1, step 2a states "determining if the token has been received..." and step 2b states "transmitting the token on the output port O<sub>j</sub> when the token has been received..." Step 1b states "receiving a token on input port I<sub>i</sub>" and step 1e states "...if said output port O<sub>j</sub> has transmitted a token" Steps 1b and 1e are receiving and transmitting a token. Steps 2a and 2b are determining and transmitting the token also. It is unclear from the claim language which tokens are steps 2a and 2b referring to since there are two different tokens and steps 1b and 1e. It is also unclear if tokens in the

steps 1b and 1e are same or different tokens. Further clarification of how tokens are used is necessary in the claim to particularly and distinctly claim the subject matter.

***Claim Rejections - 35 USC § 103***

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
5. Claims 1-6, 8-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Khosravi et al. (USPN 7,200,146) in view of Lindblom et al. (USPN 7,054,263).

**Regarding claim 1,** Khosravi teaches a method for transitioning a network routing function in a network from a first routing function  $R_{old}$ , defining an established set of possible connections for forwarding data packets between a plurality of communication input ports  $I_1, \dots, I_n$  and output ports  $O_1, \dots, O_m$  of each network element in the network, to a second routing function  $R_{new}$ , defining a new set of possible connections between the input and output ports of each network element, wherein the transitioning of the network routing function is controlled by means of tokens defining the second routing function  $R_{new}$  to be used by each network element in the network to ensure that forwarding of data packets in the network elements in the network will not be halted indefinitely when altering the network routing function, where the method when applied to a network with link-level flow control will not create network deadlock

**[Col. 8, lines 31-33, Fig. 6, alters routing table to change connections between input and outputs],** the method comprising: (1) performing the following sequence of steps for each input port  $I_i$  of each network element in the network for altering the routing function used by each network element: (1a) applying the first routing function

$R_{old}$  for the input port  $I_i$  [Col. 7, lines 53-55, applies a switch label for the egress port], (1b) receiving a token on an input port  $I_i$  [Col. 8, lines 16-18, update message is the token], (1d) applying the second routing function  $R_{new}$  for the input port  $I_i$  [Col. 8, lines 34-38, in response to new switch-label], (1e) starting forwarding of data packets to every Output port  $O_j$  associated with the input port  $I_i$  according to the second routing function  $R_{new}$  only if the output port  $O_j$  has transmitted a token [Col. 9, lines 39-44, transfers data packet in accordance with routing functions and correspondence between plurality of input and output ports], (2) performing the following sequence of steps for each output port  $O_j$ , of each network element in the network: (2a) determining if the token has been received on all input ports associated with the output port  $O_j$  according to the first routing function  $R_{old}$  [Fig. 7, Col. 8, lines 54-64, determines if the routing function is allocated for all egress ports and applies switching label to all egress ports if switch label is not allocated for routing in FE], (2b) transmitting the token on the output port  $O_j$  when the token has been received on all the associated input ports  $I_i$  [Fig. 9, Col. 9, lines 51-56, transmits switch label to egress ports].

However, Khosravi does not teach (1c) stopping forwarding of data packets arriving on port  $I_i$  after receiving updated routing function.

Lindblom teaches stopping forwarding of data packets arriving on port  $I_i$  after receiving updated routing function [Col. 12, lines 24-40, stops forwarding packet on port when routing is changed].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to stop forwarding packets when routing function changes so that when fault occurs the routing can be changed and traffic from that port can be stopped [Abstract].

**Regarding claim 2**, Khosravi teaches the network element is a switch [Fig. 10, 1025].

**Regarding claim 3**, Khosravi teaches the token is included in a data packet [Col. 8, lines 19-23, message generated by routers are in a data packet].

**Regarding claim 4**, Khosravi teaches the method is applied to deterministic routing functions [Col. 8, lines 17-19].

**Regarding claim 5**, Khosravi the method is applied to adaptive routing functions [Col. 8, lines 23-28, OSPF is adaptive routing function as routes can change depending on available shortest path].

**Regarding claim 6**, Khosravi teaches the method is applied to source routing [Col. 8, lines 7-12, applicant describes source routing as per packet routing which is taught by reference].

**Regarding claim 8**, Khosravi teaches the method is applied to only parts of a complete network [Col. 8, lines 39-41].

**Regarding claim 9**, Khosravi teaches a network element [Fig. 10, 1010], comprising a plurality of output ports for transmitting data packets to other network elements in a network [Fig. 10, Ports 1-6], a plurality of input ports for receiving data packets from other network elements in the network [Fig. 10, Ports 1-6], a processing

device [**Fig. 10, 1025**], a memory, characterized in that the processing device is arranged to perform a method claim 1 [**Col. 11, lines 9-13**].

**Regarding claim 10**, Khosravi teaches routing functions are implemented as table stored in memory [**Fig. 10, 1027**].

**Regarding claim 11**, Khosravi teaches memory comprises computer program instructions arranged to perform the method when executed by the processing device [**Col. 11, lines 9-13**].

**Regarding claim 12**, Khosravi teaches a computer network system, comprising a number of network elements according to claim 9 [**Fig. 10**].

**Regarding claim 13**, Khosravi teaches a computer program, embodied on a storage medium or in a memory [**Col. 10, lines 11-15**], for execution by a processing device in a network element [**Col. 11, lines 9-13**], characterized in that the program comprises a set of instructions arranged to perform a method according to claim 1 when executed by the processing device in the network element [**Col. 11, lines 14-19**].

6. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Khosravi et al. (USPN 7,200,146) in view of Lindblom et al. (USPN 7,054,263) and Oprescu (USPN 5,784,557).

**Regarding claim 7**, the references teach a method as discussed in rejection of claim 5.

However, the references do not teach reducing the cyclic dependency graph to non-cyclic graph.

Oprescu teaches reducing the cyclic dependency graph to non-cyclic graph

**[Abstract].**

It would have been obvious to one of ordinary skill in the art at the time the invention was made to reduce the cyclic dependency graph to non-cyclic graph so that a direction for the data packet can be established **[Col. 6, lines 44-48]**.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chandrahas Patel whose telephone number is (571)270-1211. The examiner can normally be reached on Monday through Thursday 7:30 to 17:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on 571-272-3139. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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Supervisory Patent Examiner, Art  
Unit 2416

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Examiner, Art Unit 2416